

ISO/IEC 14776-331:2002-09 (E)

Information technology_ - Small computer system interface (SCSI)_ - Part_331: Stream commands (SSC)

CONTENTS

- FOREWORD 6
- INTRODUCTION 7
- 1 Scope 8
- 2 Normative references 9
- 3 Definitions, symbols and abbreviations 9
 - 3.1 Definitions 9
 - 3.2 Symbols and abbreviations 11
 - 3.3 Keywords 11
 - 3.4 Conventions 12
- 4 General 13
 - 4.1 Overview 13
 - 4.2 Physical models 13
- 5 Sequential-access devices 13
 - 5.1 Definitions specific to sequential access devices 13
 - 5.2 Sequential-access device model 16
 - 5.2.1 Physical elements 16
 - 5.2.2 Early warning 19
 - 5.2.3 Partitions within a volume 19
 - 5.2.4 Logical elements within a partition 21
 - 5.2.5 Data buffering 22
 - 5.2.6 Tagged command queuing 22
 - 5.2.7 Recorded object descriptors (block identifiers) 23
 - 5.2.8 Direction and position definitions 23
 - 5.2.9 Write protection 25
 - 5.2.10 Progress indication 27
 - 5.2.11 TapeAlert application client interface 28
 - 5.2.12 Device reservations and command behavior 31
 - 5.3 Command descriptions for sequential-access devices 32
 - 5.3.1 ERASE command 34
 - 5.3.2 FORMAT MEDIUM command 34
 - 5.3.3 LOAD UNLOAD command 36
 - 5.3.4 LOCATE command 38
 - 5.3.5 READ command 39
 - 5.3.6 READ BLOCK LIMITS command 41
 - 5.3.7 READ POSITION command 42
 - 5.3.8 READ REVERSE command 45
 - 5.3.9 RECOVER BUFFERED DATA command 46
 - 5.3.10 REPORT DENSITY SUPPORT command 47
 - 5.3.11 REWIND command 50
 - 5.3.12 SPACE command 51
 - 5.3.13 VERIFY command 54
 - 5.3.14 WRITE command 55
 - 5.3.15 WRITE FILEMARKS command 57

5.4	Parameters for sequential-access devices.....	58
5.4.1	Diagnostic parameters	58
5.4.2	Log parameters	58
5.4.3	Mode parameters	60
6	Printer devices	79
6.1	Model for printer devices	79
6.2	Commands for printer devices.....	80
6.2.1	FORMAT command.....	81
6.2.2	PRINT command.....	82
6.2.3	RECOVER BUFFERED DATA command	83
6.2.4	SLEW AND PRINT command	83
6.2.5	STOP PRINT command	84
6.2.6	SYNCHRONIZE BUFFER command.....	84
6.3	Parameters for printer devices	85
6.3.1	Diagnostic parameters	85
6.3.2	Log parameters	85
6.3.3	Mode parameters	86
Annex A (informative)	Historical density codes.....	94
Annex B (normative)	TapeAlert log page parameter codes (flags)	96
Bibliography	101
Figure 1	– SCSI standards - general structure.....	8
Figure 2	– Typical volume layout.....	17
Figure 3	– Typical medium track layout.....	17
Figure 4	– Serpentine recording example.....	18
Figure 5	– Parallel recording example.....	18
Figure 6	– Helical scan recording example.....	18
Figure 7	– Early-warning example.....	19
Figure 8	– Partitioning example – one partition per track group	20
Figure 9	– Partitioning example – one partition per two track groups	20
Figure 10	– Partitioning example – two partitions per track group	20
Figure 11	– SCSI printer model.....	80
Table 1	– Error conditions and sense keys.....	24
Table 2	– Write protect ASC/ASCQ combinations	26
Table 3	– Commands providing progress indication without changing ready state.....	27
Table 4	– Commands changing ready state and providing progress indication	28
Table 5	– TapeAlert default informational exceptions control page	29
Table 6	– TapeAlert flag types	30
Table 7	– TapeAlert flags minimum subset	30
Table 8	– TapeAlert flag definitions.....	31
Table 9	– Streaming commands that are allowed in the presence of various reservations	32
Table 10	– Commands for sequential-access devices	33
Table 11	– ERASE command.....	34
Table 12	– FORMAT MEDIUM command	35
Table 13	– Format field definition.....	36

Table 14 – LOAD UNLOAD command.....	37
Table 15 – LOCATE command	38
Table 16 – READ command.....	39
Table 17 – READ BLOCK LIMITS command	41
Table 18 – READ BLOCK LIMITS data.....	41
Table 19 – READ POSITION command	42
Table 20 – READ POSITION data format, short form	43
Table 21 – READ POSITION data format, long form	44
Table 22 – READ REVERSE command.....	45
Table 23 – RECOVER BUFFERED DATA command	46
Table 24 – REPORT DENSITY SUPPORT command	47
Table 25 – Density support header	48
Table 26 – Density support data block descriptor	48
Table 27 – REWIND command	51
Table 28 – SPACE command.....	51
Table 29 – Code definition	52
Table 30 – VERIFY command.....	54
Table 31 – WRITE command.....	55
Table 32 – WRITE FILEMARKS command.....	57
Table 33 – Diagnostic page codes	58
Table 34 – Log page codes.....	59
Table 35 – Parameter codes for sequential-access device page.....	60
Table 36 – TapeAlert log page.....	60
Table 37 – Device-specific parameter	61
Table 38 – Buffered modes.....	61
Table 39 – Speed field definition	61
Table 40 – Sequential-access density codes	62
Table 41 – Mode page codes.....	63
Table 42 – Data compression page.....	64
Table 43 – Possible boundaries and resulting sense keys due to data compression	65
Table 44 – Compression algorithm identifiers.....	67
Table 45 – Device configuration page	67
Table 46 – EOD defined values	69
Table 47 – Medium partition page(1).....	71
Table 48 – PSUM values	72
Table 49 – Medium format recognition values	74
Table 50 – Medium partition page(2-4).....	75
Table 51 – Read-write error recovery page	76
Table 52 – Informational exceptions control page.....	78
Table 53 – TapeAlert test descriptions	78
Table 54 – Commands for printer devices	81
Table 55 – FORMAT command.....	82
Table 56 – Format type values.....	82

Table 57 – PRINT command.....	82
Table 58 – RECOVER BUFFERED DATA command	83
Table 59 – SLEW AND PRINT command	83
Table 60 – STOP PRINT command.....	84
Table 61 – SYNCHRONIZE BUFFER command	85
Table 62 – Diagnostic page codes	85
Table 63 – Log page codes.....	86
Table 64 – Printer device-specific parameter	86
Table 65 – Mode page codes.....	87
Table 66 – Parallel printer interface	87
Table 67 – Parity select codes	88
Table 68 – VFU control byte	88
Table 69 – Printer options.....	89
Table 70 – Font identification values	89
Table 71 – Slew mode codes	90
Table 72 – Line slew codes	90
Table 73 – Form slew codes	91
Table 74 – Data termination option codes	91
Table 75 – Serial printer interface	92
Table 76 – Parity selection codes	92
Table 77 – Pacing protocol codes	93
Table A.1 – Historical sequential-access density codes.....	94
Table B.1 – TapeAlert log page parameter codes.....	96